

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A genetic vector for stable transfection and expression of a desired protein within eukaryotic cells comprising:

- (a) distal 5' flanking sequences of a eukaryotic locus;
- (b) proximal 5' regulatory sequences of a eukaryotic locus;
- (c) at least a first insertion site for a first heterologous coding sequence; and
- (d) proximal 3' regulatory sequences effective for transcription termination of a eukaryotic locus;

wherein said sequences are operably joined in order (a)-(d) in a 5' to 3' orientation, with optional linker sequences between adjacent sequences; and

wherein

(1) said distal 5' flanking sequences comprise a sequence of at least 100 bases having at least 70% identity to a nucleotide sequence found between 20 bp and 100,000 bp 5' of a transcriptional initiation site of a ferritin heavy chain locus; or

(2) said proximal 5' regulatory sequences comprise a sequence of at least 20 bases having at least 70% identity to a nucleotide sequence found between 1 bp and 10,000 bp 5' of a translational initiation codon of a ferritin heavy chain locus.

2. (Original) A genetic vector for stable transfection and expression of a desired protein within eukaryotic cells comprising:

- (a) distal 5' flanking sequences of a eukaryotic locus;

- (b) proximal 5' regulatory sequences of a eukaryotic locus;
- (c) at least a first heterologous coding sequence encoding said desired protein; and
- (d) proximal 3' regulatory sequences effective for transcription termination of a eukaryotic locus;

wherein said sequences are operably joined in order (a)-(d) in a 5' to 3' orientation, with optional linker sequences between adjacent sequences; and

wherein

(1) said distal 5' flanking sequences comprise a sequence of at least 100 bases having at least 70% identity to a nucleotide sequence found between 20 bp and 100,000 bp 5' of a transcriptional initiation site of a ferritin heavy chain locus; or

(2) said proximal 5' regulatory sequences comprise a sequence of at least 20 bases having at least 70% identity to a nucleotide sequence found between 1 bp and 10,000 bp 5' of a translational initiation codon of a ferritin heavy chain locus.

3. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1-2~~ wherein said distal 5' flanking sequences are derived from a ferritin heavy chain locus.

4. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1-2~~ wherein said proximal 5' regulatory sequences are derived from a ferritin heavy chain locus.

5. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1-2~~ wherein said proximal 5' regulatory sequences and said distal 5' flanking sequences are derived from a ferritin heavy chain locus.

6. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1-5~~ wherein said proximal 3' regulatory sequences are derived from a ferritin heavy chain locus.

7. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1-6~~ further comprising distal 3' flanking sequences of a ferritin heavy chain locus.

8. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1, and 3-7~~ wherein said insertion site for a heterologous sequence includes at least one restriction endonuclease site.

9. (Original) A genetic vector as in claim 8 wherein said insertion site for a heterologous sequence is a polylinker site including at least two restriction endonuclease sites.

10. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1-9~~ wherein said proximal 5' regulatory sequences include a eukaryotic intron sequence.

11. (Original) A genetic vector as in claim 10 wherein said eukaryotic intron sequence is derived from intron 1 of a ferritin heavy chain gene.

12. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1-11~~ wherein said proximal 5' regulatory sequences include untranslated exon sequences.

13. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1-12~~ wherein said distal 5' flanking sequences and said proximal 5' regulatory sequences have a total length of between 1,000 and 10,000 bases.

14. (Currently Amended) A genetic vector as in claim 1 ~~any one of claims 1-12~~ wherein said proximal 3' regulatory sequences and any distal 3' flanking sequences have a total length of between 1,000 and 10,000 bases.

15. (Currently Amended) A eukaryotic cell transfected with a vector of claim 1 ~~any one of claims 1-14~~.

16. (Original) A eukaryotic cell as in claim 15 wherein said vector has stably integrated into a chromosome of said cell.

17. (Currently Amended) A eukaryotic cell as in claim 15 ~~any one of claims 15-16~~ wherein said first coding sequence is expressed in said cell.

18. (Original) A eukaryotic cell comprising  
(a) distal 5' flanking sequences of a eukaryotic locus;  
(b) proximal 5' regulatory sequences of a eukaryotic locus;  
(c) at least a first coding sequence; and  
(d) proximal 3' regulatory sequences effective for transcription termination of a eukaryotic locus;

wherein said sequences are operably joined in order (a)-(d) in a 5' to 3' orientation, with optional linker sequences between adjacent sequences; and

wherein

(1) said distal 5' flanking sequences comprise an exogenous sequence of at least 100 bases having at least 70% identity to a nucleotide sequence found between 20 bp and 100,000 bp 5' of a transcriptional initiation site of a ferritin heavy chain locus; or

(2) said proximal 5' regulatory sequences comprise an exogenous sequence of at least 20 bases having at least 70% identity to a nucleotide sequence found between 1 bp and 10,000 bp 5' of a translational initiation codon of a ferritin heavy chain locus.

19. (Original) A eukaryotic cell comprising:  
an exogenous 5' distal flanking sequence derived from a ferritin heavy chain locus operably joined to a coding sequence.

20. (Currently Amended) A method of producing a desired protein in a eukaryotic cell comprising:

- (a) providing at least one cell of claim 15 ~~any one of claims 15-19~~ or a descendent thereof;
- (b) maintaining said cell in a culture under conditions which permit high expression of said desired protein; and
- (c) isolating said desired protein from said culture.